# Therapeutic Play and Education with a Certified Child Life Specialist as a Method of Non-Pharmacological Anxiolysis for Children Scheduled to Undergo Anesthesia for Same-Day Surgery

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## Background

Undergoing a medical procedure can be one of the most traumatic and anxiety-inducing experiences a child can go through. It is estimated that 50%-70% of children undergoing surgical or non-surgical procedures experience significant levels of fear and anxiety. Children with heightened levels of fear and anxiety in the peri-operative settings can have higher incidences of non-compliance with medical interventions, require higher doses of anesthetic medications, and experience delayed discharge from the recovery room.

Certified Child Life Specialists (CCLS) are healthcare professionals who are clinically trained in the psychosocial needs specifically related to the illness and injury of pediatric patients. Several studies show that an intervention by a CCLS can help reduce the level of fear and anxiety experienced by a child undergoing a medical intervention.

The current practice at Albany Medical Center's (AMC) South Clinical Campus (SCC) does not involve using an intervention by CCLS for children undergoing a procedure.

## Methods

Participants were screened for eligibility by the researchers via a chart review. To be eligible, children had to be between the ages of 2-12, be an ASA 1 or 2, and have no previous neurocognitive disorders. Children were assigned to either Group A (intervention cohort) or Group B (control cohort), based on their day of surgery. Researchers gained informed consent from parents after they completed their pre-admission testing interview, from those willing to be enrolled. Additionally, assent was obtained from children aged 7-12 years.

Observed anxiety was measured by the two research team members using the m-YPAS tool. Group A had their anxiety measured in the pre-operative area before the CCLS introduced themselves, and again while on the O.R. table, before any medication administration, after they had a CCLS-led intervention in pre-op.

Group B's anxiety levels were measured in the pre-operative area and again once they were in the operating room and on the operating table, before any medication administration.

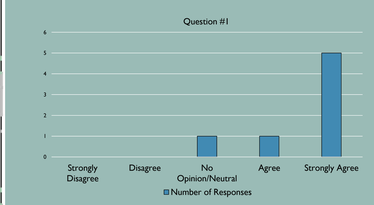
The parents/guardians of the children enrolled in Group A received a Likert-like 4-question survey to assess their perception and attitude toward the CCLS-led intervention.

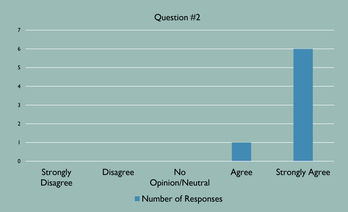
## Results

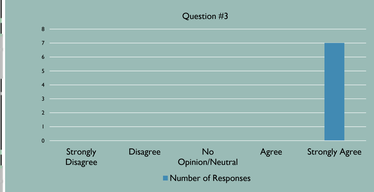
The results of the data were compiled and statistically analyzed. Group A, the intervention group, consisted of 11 participants (3F, 8M) with a mean age of 5. Overall, it initially appeared that the children in this group demonstrated a reduction in their level of anxiety (preoperative: *M= 8,* +/- standard error of the means *[SEM]=1.44* vs intra-operative *M=5.3* +/- standard error of the means *[SEM]= 0.27*). Group B, the control cohort, consisted of 5 participants (4F, 1M) with an average age of 4. This group had varying changes in their m-YPAS (preoperative *M=9.6* +/- standard error of the means *[SEM]=2.18* vs intraoperative *M=13* +/- standard error of the means *[SEM]=2.98)*. Once a paired *t-test* was conducted (*t-value=0.288, p=0.221),* it was determined that this data did not demonstrate a difference between the two cohorts. A post-hoc power analysis was conducted, which determined that this data achieved a power of 30%. It was additionally determined that if the difference between the groups is accurate, a sample size of 24 participants per cohort would be needed to find a statistically significant difference with a power value of 80%.

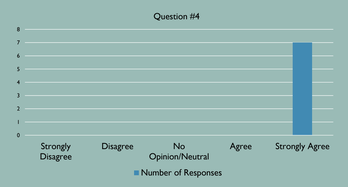
Additionally, the results of the parent surveys given to the parents of the participants in Group A were analyzed. The Likert-like survey consisted of four questions assessing the parent's opinion of the intervention by the CCLS. Of the 11 surveys given out, 7 were completed and returned for analysis. [5]

| Question 1 | | | | |
|---|---|---|---|---|
| I feel that the Certified Child Life Specialist provided valuable information that helped me better understand my childs procedure and peri-operative care. | | | | |
| 1 | 2 | 3 | 4 | 5 |
| STRONGLY DISAGREE | DISAGREE | NO OPINION/ NEUTRAL | AGREE | STRONGLY AGREE |
| **Question 2** | | | | |
| The Certified Child Life Specialist intervention positively impacted my perception of my child's experience undergoing a procedure at Albany Medical Centers South Clinical Campus. | | | | |
| 1 | 2 | 3 | 4 | 5 |
| STRONGLY DISAGREE | DISAGREE | NO OPINION/ NEUTRAL | AGREE | STRONGLY AGREE |
| **Question 3** | | | | |
| I feel that the Certified Child Life Specialist intervention reduced my child's anxiety level. | | | | |
| 1 | 2 | 3 | 4 | 5 |
| STRONGLY DISAGREE | DISAGREE | NO OPINION/ NEUTRAL | AGREE | STRONGLY AGREE |
| **Question 4** | | | | |
| The use of Certified Child Life Specialists in the pre-anesthetic setting should be offered to all children undergoing a procedure at Albany Medical Centers South Clinical Campus. | | | | |
| 1 | 2 | 3 | 4 | 5 |
| STRONGLY DISAGREE | DISAGREE | NO OPINION/ NEUTRAL | AGREE | STRONGLY AGREE |




## Discussion

The primary objective of this mixed-methods pilot study was to determine the feasibility of incorporating medical play and education with a CCLS into the peri-operative workflow at AMC's SCC.

The second objective of this study was to determine the relationship between a CCLS-led intervention in the pre-operative setting and a pediatric patient's pre-anesthetic anxiety levels. While preliminary data looked promising, it was ultimately determined that this data only achieved a power value of 30% and, therefore, could not prove or invalidate the validity of this intervention. This study was unable to achieve statistical power due to the low sample sizes in both the intervention and control cohorts.

**Strengths:**
- ❖ The use of the m-YPAS tool, a validated tool to measure anxiety levels.
- ❖ Randomization of study groups
- ❖ Clearly defined study objective

**Limitations:**
- ❖ Potential for researcher bias in collecting m-YPAS scores
- ❖ Inability to blind
- ❖ Small cohorts with uneven distribution
- ❖ Loss of follow-up with survey submission

## Conclusion

Working through the perceived barriers determined that this data was found to be clinically relevant, but not statistically significant, possibly due to low participant enrollment during the study timeframe.

Areas of future research for feasibility/utility within the peri-op setting can look at measuring O.R. turnover times, pre-op assessment times, and staff satisfaction scores. Future research would benefit from a larger sample size, with a minimum of 24 participants enrolled, and parent surveys from both groups. Expanding the inclusion criteria may also be useful, as children with neurocognitive disorders may greatly benefit from CCLS-led interventions.

## References